

ACKNOWLEDGEMENT OF INTERVIEW

An interview, granted by the Examiner and held on August 25, 2008, is gratefully acknowledged. During the interview, Claim 1 was discussed. The applicability of prior art references, *Borden*, U.S. Patent 1,936,537 and *Covell*, U.S. Patent 815,268, were discussed, as related to the pivotal attachment. In the interview, it was agreed that the Applicants would submit an amended claim which would describe the pivotal attachment functions.

The interview is believed to have expedited the prosecution of this case, and the Examiner's efforts in this regard are appreciated.

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Final Office Action dated May 23, 2008, is respectfully requested in view of this amendment. By this amendment, Claims 19, 20 and 24 are cancelled, Claims 1, 23, 37 and 38 have been amended, and new Claim 39 has been added. Claims 1, 3-6, 8-16, 17-21, 23-25, and 27-39 are pending in this application, with Claim 16 withdrawn from examination.

Claims 1 and 38 have been amended in order to describe the pivotal attachment displacing the sealing assembly along a non-linear path between open and closed positions. Claim 23 has been amended to depend from a pending claim, and to include the casing element referenced in Claim 23 as originally filed. Claim 37 has been amended to describe the float being pivotally attached to the sealing assembly by a rigid link. New Claim 39 presents the subject matter of Claim 7, previously cancelled. It is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132.

In the Final Office Action, the drawings were objected to, Claim 23 was objected to and Claims 1, 3-6, 8-15, 17-21, 23-25, and 27-36 were rejected under 35 U.S.C. §112. Claims 1, 3-5, 8-10, 14-15, 17-19, 21, 23, 25, and 37 and 38 were rejected under 35 USC 102(b) as anticipated by *Borden*, U.S. Patent 1,936,537 (hereinafter *Borden*). Claim 6 was rejected under

35 U.S.C. 103(a) over Covell, U.S. Patent 815,268 (hereinafter *Covell*), taken in view of Kennedy, U.S. Patent 5,386,844 (hereinafter *Kennedy*). Claims 11-13 were rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of Schutte, et al., U.S. Patent 801,161 (hereinafter *Schutte*). Claim 20 was rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of Maake, U.S. Patent 5,884,342 (hereinafter *Maake*). Claim 24 was rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of Perkins, U.S. Patent 5,957,150 (hereinafter *Perkins*). Claims 27-30 were rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of Zakai, U.S. Patent 4,770,201 (hereinafter *Zakai*).

Objections to the Drawings

In the outstanding Office Action, the Examiner objected to the drawings in that certain features set forth in Claims 19, 20 and 24 were not depicted in the drawings.

Response

Applicants have cancelled Claims 19, 20 and 24. Accordingly, the objection is overcome.

Claim Objections

In the outstanding Office Action, the Examiner objected to Claim 23 as depending from cancelled Claim 22.

Response

Applicants have amended Claim 23 to depend from Claim 1. Claim 23 was also amended to positively recite the casing element, which is referenced in the claim. Accordingly, it is submitted that this objection has been overcome.

Rejections Under 35 U.S.C. §112

In the outstanding Office Action, the Examiner rejected Claim 1 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the antecedent basis within the claims for "said pivotal attachment" and "the casing" were cited as lacking.

Response

Reconsideration and withdrawal of the rejection are respectfully requested. By this Response and Amendment, Claims 1 and 23 have been amended to properly recite the antecedent terms pointed out by the Examiner. Accordingly, it is submitted that these rejections have been overcome.

Rejections under 35 USC §102

Claims 1, 3–5, 8–10, 14–15, 17–19, 21, 23, 25, and 37 and 38 were rejected under 35 USC 102(b) as anticipated by *Borden*. *Borden* is cited as disclosing a gas purge valve in which the outlet is formed with a valve seating and sealing assembly, with the sealing assembly being internally received within a housing and supported by an external lever mechanism. The support lever mechanism is cited as extending outside the housing and pivotally attached thereto.

Response

This rejection is traversed as follows. For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in

as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131.

Claim 1 now describes:

"... a sealing member ... supported by a first end of an external support lever mechanism ... [forming] a pivotal attachment ..., the pivotal attachment displacing the sealing assembly along a non-linear path between said open position and said closed position ... a float member pivotally secured to said sealing assembly within the housing"

With further reference to the figure of *Borden*, Applicants note that *Borden* discloses:

- a float 7 in the form of a "cylinder" (page 1, line 67);
- the float 7 carries the valve closure 8 (page 1, line 47)
- the figure shows the float 7 being attached to two peripheral points to the valve closure 8;
- both the hollow cylinder float 7 and the valve closure 8 are hatched and are therefore drawn in cross section; and
- the "float 7... is guided to the seat 9 by the guiding means comprising the hollow tube 4 and the sleeve 3 (page 1, lines 47 to 50).

Notably, the Examiner equates the valve closure 8 of *Borden* with the sealing assembly of Claim 1.

It is thus clear that *Borden* discloses a cylindrical float, with a valve closure carried thereby. While only two connection points are shown in the figure, it is clear from the hatching shown, and the understood purpose of a valve 'closure' that the valve has a rounded form corresponding to the rounded cross-section of the cylindrical float, by which it is carried.

Therefore it is also clear that due to the at least two peripheral connections of the float and valve closure, *Borden* does not disclose the feature of Claim 1 recited above, i.e. there is no float pivots secured to the sealing assembly (i.e. valve closure).

Thus, Claim 1 of the application is novel over *Borden* for at least the reasons listed above.

Borden fails to show or suggest the use of a pivotal attachment which both provides pivotal attachment displacing the sealing assembly and provides for displacement along a non-linear path between open and closed positions. Furthermore, *Borden* fails to show the use of a pivotal attachment which allows the sealing assembly freedom to self-align. As explained above, the valve disclosed in *Borden* moves along a linear path since *Borden* discloses a "guiding means" comprising the hollow tube 4" (page 1, lines 47 to 50).

Instead, *Borden* uses a set of side guides and uses his articulation arrangement to allow alignment along a linear path. Further movement is set forth by *Borden* at Page 1, lines 48-50:

"The float 7 carrying the valve closure 8 is guided to the seat 9 by guiding means comprising the hollow tube 4 and sleeve 3."

Borden goes on to describe, at Page 2, lines 71-80, which reads in part:

"... the action of the float which is lowered along the guiding tube 4 ... and as soon as it is lowered, the valve head 8 is lowered therewith..."

It is respectfully submitted that this could not reasonably be interpreted as describing "pivotal attachment displacing the sealing assembly along a non-linear path between said open position and said closed position".

It is further noted that one would not even modify the valve of *Borden* to pivotally secure the float thereof to the sealing assembly thereof, since the construction of a linear guide means (hollow tube 4), would prevent pivotal movement of the float in any case.

Therefore the feature of Claim 1 of a "float member pivotally secured to said sealing assembly" is simply not anticipated or rendered obvious by the valve of *Borden*.

Additionally, amended Claim 1 now recites the feature "the pivotal attachment displacing the sealing assembly along a non-linear path between said open position and said closed position".

Independent Claim 37 is novel over *Borden* for at least the same reasons as mentioned with respect to Claim 1. Additionally, Claim 37 also defines a rigid link via which the float is attached to the sealing assembly. It is reiterated that in *Borden*, the figure shows the float 7 is directly attached to two peripheral points to the valve closure 8, and there is no intermediary link.

Similarly, regarding the Examiner's rejections of dependent Claims 3, 4 and 5, which are alleged to be anticipated by *Borden*, it is noted that the float member of *Borden* is not suspended from the sealing assembly by a rigid connecting rod, which the Examiner identifies incorrectly as element 4 of *Borden*. It is noted that the sealing assembly is identified by the Examiner as element 8 of *Borden* which is not at all in contact with element 4 of *Borden*. Furthermore, it is not seen how rigid connecting rod 4 is pivotally coupled to the sealing assembly 8 as the two elements are not in contact.

Regarding the subject matter of Claim 21, Applicants note that the Examiner has indicated that the *Borden* figure discloses a frustaconical shape of the housing thereof. Applicants disagree with the Examiner, noting that it does not show a frustaconical shape but rather a cylindrical shape having a curved bottom edge. *Borden* discloses that such shape is actually "a hollow substantially cylindrical body" (Claim 1 of *Borden*, page 2, lines 137 and 138).

Regarding Claim 23, the Examiner indicates that a casing 16 is disclosed in *Borden* as being received within an outlet duct (Office Action, page 5). Applicant respectfully traverse this interpretation of *Borden* and respectfully submit that *Borden* presents no basis for such position. Additionally, regarding claim 23, the Examiner states on page 6 of the Office Action, that the casing "13 and 14" is received within an outlet duct "13 and 14" both of which being the same elements identified and therefore resulting in an illogical conclusion.

Thus, dependent Claims 2-36 and 39 are novel over *Borden* at least because they are dependent from an acceptable independent claim, the reasons listed above, and reasons brought previously in response to previous Office Actions.

In summary, referring to *Borden*'s drawing, it is respectfully noted that *Borden* discloses a "float 7 carrying the valve closure 8 is guided to the seat 9 by the guiding means comprising the hollow tube 4 and the sleeve 3 (page 1, lines 47-50). Thus, it can be seen clearly in the text and figure that *Borden* has a float which carries the sealing member, designated by the numeral 8; the float 7 being attached at least as two points of the sealing member 8 in the cross sectional figure shown in *Borden*. In this regard, it is submitted as *prima facie*, that the configuration is such that the entire shape of the float, which is a hollow cylinder (page 1, line 67), is connected to sealing member element 8.

Therefore the feature of Applicants' Claim 1 of, "the float member pivotally secured to said sealing assembly" is simply not disclosed by the valve of *Borden*.

Applicants respectfully traverse the Examiner's position.(in response to our previous response) that *Borden* discloses a "float member 7 pivotally secured 5 to the sealing assembly within the housing". Thus, per Applicants' response to the previous Office Action, the construction of *Borden* is different at least for this reason.

Furthermore, while there is pivotal attachment in *Borden* of the sealing member to the external support member, Applicants note that such attachment of the sealing member to the external support lever in *Borden* still does not fulfill the claimed feature of the sealing assembly having freedom to self align with the valve seating, since *Borden* discloses "guiding means comprising the hollow tube 4" (page 1, lines 47 to 50). This directly contradicts Applicants' Claim 1, which recites:

"... the pivotal attachment displacing the sealing assembly along a non-linear path between said open position and said closed position ..."

Notably Applicants' sealing assembly is only pivotally supported by an external support lever mechanism (having a second end pivotally attached to the housing) and has no linear guiding means. Thus, the sealing assembly therefore displaced along a non-linear path when in

motion. It is respectfully pointed out that the above sets forth an operational feature of the claimed subject matter which is functionally distinct from the cited references.

Accordingly, Applicants respectfully submit that the *Borden* reference does not teach or suggest all the features as recited in independent Claims 1, 37 and 38 and claims dependent therefrom (Claims 1, 3-5, 8-10, 14-15, 17-19, 21, 23, 25, and 37 and 38 of the present application). It is therefore respectively submitted that the rejection under 35 U.S.C. §102 should be withdrawn.

Rejections Under 35 U.S.C. §103

The Examiner rejected Claim 6 under 35 U.S.C. 103(a) over *Covell*, taken in view of *Kennedy*. Claims 11-13 were rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of *Schutte*. Claim 20 was rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of *Maake*. Claim 24 was rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of *Perkins*. Claims 27-30 were rejected under 35 U.S.C. 103(a) over *Borden*, taken in view of *Zakai*.

Response

This rejection is traversed as follows. To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would be obvious to modify the references to produce the present invention. *See Dystar Textilfarben GMBH v. C. H. Patrick*, 464 F.3d 1356 (Fed. Cir. 2006). The Examiner bears the

initial burden to provide some convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings. *Id.* at 1366.

With reference to Figs. 1 and 2 of *Covell*, Applicants note that *Covell* discloses:

- a float 20;
- a rod 21 "passed axially through the float [20]" (page 1, lines 78 and 79); and
- said float being of lesser diameter than the interior of the body portion 5 to permit of free passage of air and liquid between the float and the wall of the body portion 5" (page 1, lines 75-78).

Additionally, the Examiner has indicated that the:

- housing defined in Claim 1 of the application is disclosed in *Covell* as being elements 5, 6, 7, 16 and outer housing of 17; and
- sealing assembly defined in Claim 1 of the application is disclosed in *Covell* as being valve element 17;
- support lever mechanism are elements 24 and 18.

Claim 1 sets forth the features:

- a) an external support lever mechanism comprising a first end supporting a sealing assembly and a second end pivotaly attached to the housing at an outside portion thereof; and
- b) a "float member pivotaly secured to said sealing assembly".

Claim 1, and consequently Claim 6 are unobvious over a combination of *Covell* and *Kennedy*, at least because feature (a) above, is not disclosed in either *Covell* or *Kennedy*. In particular the Examiner indicates that an "equivalent" of the external support lever mechanism are *Covell's* elements 18 and 24. Notably, these elements only engage the Examiner's cited equivalent of the sealing assembly (element 17) at a single point.

Thus feature (a) above, which defines an external support lever mechanism comprising a first end supporting a sealing assembly and a second end pivotally attached to the housing at an outside portion thereof, is not disclosed in *Covell*.

It should be further pointed out that the pivotal attachment of the external support "lever" mechanism in Claim 1 of the present application, was always defined to "thereby displace the sealing assembly". Furthermore *Covell* does not disclose any lever pivotally attached to a housing (it is only attached to the sealing assembly), and by fortiori, does not disclose such pivotal attachment to thereby displace a sealing assembly.

It is also noted that Claim 1 defines an external support lever mechanism comprising a first end supporting a sealing assembly. As is clear from the disclosure in *Covell*, the lever mechanism only engages valve member 17, which according to the examiner is inside housing 17 (which housing rests on pipe 16), therefore there is no "support" provided by the lever mechanism equivalent, element 18.

Additionally, Claim 1, and consequently Claim 6 are unobvious over *Covell*, at least because feature (b) above, is not disclosed therein. In particular *Covell* reads that rod 21 is "passed axially through the float [20]" (page 1, lines 78 and 79), and the lower end of the rod 21 is "slidably engaged with a guide-plate 22 (page 1, lines 79 to 81), thus the rod may only move in a linear fashion, and more significantly the float is not 'pivotally' secured to anything, as the movement thereof is arrested by the rod to allow only corresponding linear motion. *Kennedy* fails to provide the missing features, and accordingly, Claims 1 and consequently Claim 6 are unobvious over a combination of *Covell* and *Kennedy*.

It is further noted that one would not even modify the valve of *Covell* to pivotally secure the float thereof, since *Covell* teaches that it is advantageous for the float to be of lesser diameter than the interior of the body portion to permit of free passage of air and liquid between the float and the wall of the body portion. Notably if the float were to pivot, the desired free passage of air and liquid would be substantially blocked.

Furthermore, it is noted that the Examiner's equivalent of the 'sealing assembly' (valve element 17) of *Covell* is, according to the Examiner, confined within a valve-housing 17 and is therefore not "displaced along a non-linear path", as set forth in Claim 1.

Thus, Claim 1, and consequently Claim 6 of the application is unobvious over a combination of *Covell* and *Kennedy* for at least the reasons above.

A. Constructional Features

Claim 1 is novel over *Borden* because *Borden* does not disclose the constructional feature of a "float member 46 pivotally secured to said sealing assembly 38" (e.g. see the present application Fig. 2B, element 86). Applicants again refers to the above descriptions of Applicants' pivotal attachment as set forth, for example, in Claim 1.

It is pointed out that, while Applicants show a pivotal attachment (Fig. 2B, element 60), Claim 1 sets forth another pivotal arrangement:

"... float member pivotally secured to [a] sealing assembly within the housing, and displaceable susceptive to liquid level within the housing."

This corresponds to a connection of float 46 to the sealing assembly 38 elements; however corresponding features do not exist in *Borden*.

Covell does not add anything that would suggest this feature. Specifically, *Covell* does not disclose the constructional feature of a "sealing member internally received within the housing". It is respectfully submitted that this distinction is in fact in accordance with the Examiner's definition of the housing as set forth *supra*.

Furthermore, Applicants note that *Covell* also does not disclose a "float member 46 pivotally secured to said sealing assembly 38" since rod 21 of *Covell* is "passed axially through the float [20]" (page 1, lines 78 and 79).

B. Functional Features

Neither *Borden* nor *Covell* discloses or suggest the following functional feature of Applicants' Claims 37 and 38. Claim 37 sets forth:

"... said sealing assembly being carried at a first end of an external support lever having a second end thereof pivotally attached to the housing allowing the sealing assembly freedom to self align with the valve seating at a closed position."

Claim 38 sets forth:

"... an external support lever pivotally secured at a first end to the housing, allowing displacement of the sealing assembly along a non-linear path between an open position and said closed position, and allowing the sealing assembly freedom to self align with the valve seating at a closed position, and having a second end articulated to the sealing assembly."

A review of the cited references indicate the functional feature of self-alignment of the sealing assembly is as follows. In the present application it is explained that it is advantageous for the lever to be external since it is then not affected by flow/pressure/dirt within the valve:

"[0047] Of particular importance in the embodiment depicted in FIGS. 1 to 4 is the externally extending support lever 42 which is not influenced by flow or pressure considerations occurring within the housing 12 and even more so, dirt typically flowing in such systems (in particular where the valve 10 is used with a sewage system) does not affect the support of the sealing assembly 38 and proper sealing is obtained."

Therefore, a skilled artisan would interpret that the pivotal attachment of a lever to one side of the sealing assembly would restrict the alignment thereof to outlet of a valve. This is not at all apparent in the combination of *Borden* and *Covell* since *Borden* discloses a "guiding means comprising the hollow tube 4 and sleeve 3" (page 1, lines 49 and 50) and *Covell* discloses a "rod 21" passing through a "guide plate 22" (page 1, lines 79-81). Notably both the guiding means of *Borden* and *Covell* are internal to the housings thereof and are therefore both subject to the problems of flow/pressure/dirt discussed in the present application.

Applicants further note that while the sealing assembly of the present application is connected to an internal float, such connection is pivotal and therefore does not preclude self-alignment or aid alignment of the sealing assembly to the valve seating.

The references to *Kennedy, Schutte, Maake, Kennedy, Perkins* and *Zakai* fail to cure the above defects in that these references do not show or suggest the above features.

The cited prior art combination therefore fails to show or suggest Applicants' claimed subject matter as set forth in Claims 6, 11–13, 20, 24, and 27–30. It is therefore respectively submitted that the rejection under 35 U.S.C. 103(a) should be withdrawn.

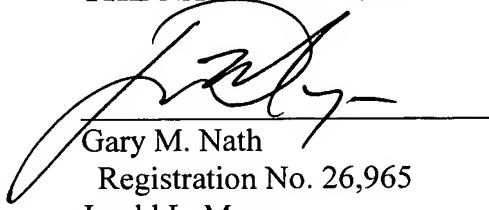
Allowed Claims

The Examiner indicated that Claims 31 and 32 are allowable over the prior art of record. Applicants appreciate this determination of allowability.

Conclusion

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner call the undersigned.

Respectfully submitted,
THE NATH LAW GROUP



Gary M. Nath
Registration No. 26,965

Jerald L. Meyer
Registration No. 41,194
Stanley N. Protigal
Registration No. 28,657
Customer No. 20529

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THE NATH LAW GROUP
112 South West Street
Alexandria, VA 22314-2891
Tel: 703-548-6284
Fax: 703-683-8396